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PATENT APPLICATION

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IN THE
UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): Dirk M. BEYER et al.

Confirmation No.: 6594

Application No.: 09/853,961

Examiner: Champagne, D.

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Group Art Unit: 3622

Title: METHOD AND SYSTEM FOR DETERMINISTIC SAMPLING WITH A SPECIFIC DISTRIBUTION

Mail Stop Appeal Brief-Patents
Commissioner For Patents
PO Box 1450
Alexandria, VA 22313-1450

RESPONSE TO NON-COMPLIANT APPEAL BRIEF

Transmitted herewith is the Appeal Brief in this application with respect to the Notice of Non-Compliant Appeal Brief mailed on 05/04/07

(complete (a) or (b) as applicable)

The proceedings herein are for a patent application and the provisions of 37 CFR 1.136(a) apply.

☐ (a) Applicant petitions for an extension of time under 37 CFR 1.136 (fees: 37 CFR 1.17(a)-(d)) for the total number of months checked below:

☐ 1st Month $120	☐ 2nd Month $450	☐ 3rd Month $1020	☐ 4th Month $1590

☐ The extension fee has already been filed in this application.

☒ (b) Applicant believes that no extension of time is required. However, this conditional petition is being made to provide for the possibility that applicant has inadvertently overlooked the need for a petition and fee for extension of time.

Please charge to Deposit Account 08-2025 the sum of $ 0 . At any time during the pendency of this application, please charge any fees required or credit any over payment to Deposit Account 08-2025 pursuant to 37 CFR 1.25. Additionally please charge any fees to Deposit Account 08-2025 under 37 CFR 1.16 through 1.21 inclusive, and any other sections in Title 37 of the Code of Federal Regulations that may regulate fees. A duplicate copy of this sheet is enclosed.

☒ I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, Alexandria, VA 22313-1450
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Respectfully submitted,

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By

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Appellant:	Beyer et al.	Patent Application	
Serial No.:	09/853,961	Group Art Unit:	3622
Filed:	May 10, 2001	Examiner:	Champagne, Donald

For: METHOD AND SYSTEM FOR DETERMINISTIC SAMPLING WITH A SPECIFIC DISTRIBUTION

Amended Appeal Brief

Table of Contents

Real Party in Interest

The assignee of the present invention is Hewlett-Packard Company.

Related Appeals and Interferences

There are no related appeals or interferences known to the Appellant.

Status of Claims

Claims 11-19 have been cancelled. Claims 1-10 and 20-30 remain pending. Claims 1-10 and 20-30 have been rejected. This appeal involves Claims 1-10 and 20-30.

Status of Amendments

All proposed amendments have been entered. An amendment subsequent to the Final Action has not been filed.

Summary of Claimed Subject Matter

Independent Claims 1 and 20 of the present application pertain to various embodiments for task selection. For example, independent Claims 1 and 20 recite,

> "determining a specified distribution of a plurality of tasks;
> assuming a first event in a sequence of events occurs, each event in said sequence of events triggering execution of one of said plurality of tasks;
> determining a plurality of hypothetical distributions of said plurality of tasks for each task hypothetically selected for execution from said plurality of tasks;
> selecting a first task for execution from said plurality of tasks, which when selected provides a corresponding hypothetical distribution of said plurality of tasks that is closest to said specified distribution of said plurality of tasks for implementation of said specified distribution."

Referring to the third paragraph on page 25, an example of an event is "a visit by a customer to a web site over a communication network..." Referring to the last line on page 9 through line 2 on page 10, an example of a task is "...the offering of an advertising promotion to the customer over the communication network." Referring to the second paragraph on page 22, an example of a segment is "...an independent set of customer characteristics." Referring to the end of the second paragraph on page 2, examples of customer characteristics include "...shoe size, age of customer, income of the customer, how much does the customer spend on a regular basis, how has the customer reacted to promotions in the past..."

Page 9 lines 1-24 of the present application state,

> Accordingly, a method and system for providing deterministic sampling with a specific distribution is described. The present invention provides a method and system that can implement a desired distribution of tasks. The present invention provides the above accomplishment and can also provide for an actual distribution that most closely resembles a desired distribution at any point in time. The present invention provides

the above accomplishment and can also provide for a method and system of task selection on a per customer basis...

Specifically, in one embodiment, the present invention discloses a method and system for selecting a task from a plurality of tasks. For example, the task is associated with a visiting customer to a web site over a communication network. The customer is assigned to a segment of a target customer base that most closely resembles the customers characteristics. A plurality of tasks is associated with the segment and can be expressed as a distribution of tasks performed. A current distribution of tasks is determined. The task which provides a new distribution that is closest to a desired distribution of the plurality of tasks is selected to be performed. In one embodiment, the task to be performed is the offering of an advertising promotion to the customer over the communication network.

In another embodiment, the distribution of tasks for a particular segment can be expressed as a vector. AS such, an actual or current distribution of tasks, a hypothetical distribution of tasks, and a desired distribution of tasks all can be expressed as a vector. The components of each of these vectors are associated with the tasks to be performed for that segment, one component for each of the tasks. Each component describes the amount of times a task has been, in actuality or theoretically, performed. Each component is expressed as a percentage over the sum of all the tasks that has been, in actuality or theoretically, performed within that particular segment.

Figure 4, which is described on pages 22-25, illustrates an exemplary matrix table 400 of an advertising campaign. The table 400, has N-segments and tasks are associated with each of the segments. Tasks can be allocated to customers of a segment in pre-specified proportions in a sequential fashion. The equation at the top of page 23 can be used to determine a vector that expresses the distribution for each of the segments of table 400. For example, Figure 4 illustrates an exemplary desired distribution of tasks for segment B 410.

The last paragraph on page 10 states,

Since the distribution of tasks can be expressed as vectors, selection of a task to be performed within a segment can be determined through vector analysis. In one embodiment, a task is theoretically selected. A new distribution of tasks is calculated that assumes that task was performed and expressed in vector form. This new distribution is compared to the desired distribution of tasks as expressed in vector form

to calculate a mathematical distance. The new distribution of tasks is subtracted from the desired distribution of tasks and the norm of the resulting vector is calculated to find the mathematical distance. In one embodiment, the means for calculating the vector norm is Euclidean.

Page 24 lines 1-18 and Figure 6 provide more details on selecting a task.

Page 11 lines 1-14 state,

This process is repeated for every possible task to be performed within that segment. This represents the various tasks that could theoretically be selected and results in a plurality of hypothetical distributions of tasks. A resulting vector is calculated from every hypothetical distribution of tasks that is compared to the desired distribution. The norm of each of the resulting vectors forms a plurality of norms and represents the mathematical distances for each of the hypothetical distributions.

The distance that has the least value represents the best distribution of tasks that is closest to the desired distribution. That least distance, is associated with a task. Thus, selection of that task will also achieve a distribution of tasks closest to the desired distribution.

Grounds of Rejection to be Reviewed on Appeal

1. In paragraph 3 of the Final Office Action, Claims 1-10 and 20-30 are rejected under 35 U.S.C. §102(e) as being anticipated by U.S. patent no. 6,286,005 by Cannon (referred to hereinafter as "Cannon").

Arguments

1. Whether Claims 1-10 and 20-30 are anticipated by Cannon (6,286,005) under 35 U.S.C. 102(e).

A. Scope and Content of the Cited Prior Art Reference (Cannon)

The Cannon reference teaches the selection of one of a plurality of possible advertising time spots. In the example provided in the Cannon reference, a current advertising plan includes three time spots for presenting a single advertisement: spot A, spot B, and spot C. The Cannon reference selects from spots D, E, F, and G for inclusion within the advertising plan. (See col. 39, lines 2-8 and col. 41, lines 54-58 of the Cannon reference).

The Cannon reference utilizes a history of viewing data for a sample group to determine selection of one of the possible plurality of time spots (e.g., spots D, E, F, or G) for inclusion within the advertising schedule. Once one of the time spots (e.g., spots D, E, F, or G) is selected, the remaining possible time spots are never selected. That is, the Cannon reference teaches the selection of one spot in a plurality of possible time spots. As such, the Cannon reference teaches a history of viewing events that is used to select from one of a plurality of possible time spots (e.g., spots D, E, F, and G).

The Cannon reference determines scores for multiple pluralities of possible tasks. That is, the Cannon reference provides a score for the following four advertising schedules: spots A, B, C, and D; spots A, B, C, and E; spots A, B, C, and F; and spots A, B, C, and G.

The Cannon reference selects a time spot from a plurality of possible time spots (e.g., spots D, E, F, and G). That is, the Cannon reference selects one combination of time spots from the multiple combinations of time spots (e.g., combination of spots A, B, C, and D; combination of spots A, B, C, and E; combination of spots A, B, C, and F; and combination of spots A, B, C, and G). The selected combination provides the highest score that more efficiently matches the predetermined media objectives. (See col. 41, lines 54-63 of the Cannon reference).

B. Differences Between the Cited Prior Art References and the Claimed Invention.

Claims 1 and 20 set forth a method of task selection and a system for implementing the same, comprising:

> determining a specified distribution of a plurality of tasks;
> assuming a first event in a sequence of events occurs, each event in said sequence of events triggering execution of one of said plurality of tasks;
> determining a plurality of hypothetical distributions of said plurality of tasks for each task hypothetically selected for execution from said plurality of tasks;
> selecting a first task for execution from said plurality of tasks, which when selected provides a corresponding hypothetical distribution of said plurality of tasks that is closest to said specified distribution of said plurality of tasks for implementation of said specified distribution.

Embodiments of the present invention pertain to methods of deterministic sampling with a specific distribution and a system for implementing the same. Specifically, in embodiments of the present invention a task, or advertising promotion, is selected that gives a distribution of a plurality of tasks, or advertising promotions, that is closest to a specified distribution of the plurality of

tasks, or advertising promotions. That is, embodiments of the present invention are implemented to achieve the specific distribution of the plurality of tasks, or advertising promotions.

Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed in invention, arranged as in the claim (Lindemann Maschinefabrik GmbH v. American Hoist & Derrick Co., 221 USPQ 481, 485 (Fed. Cir. 1984). Because, at a minimum, the Cannon reference fails to teach the determination of a plurality of tasks, and the execution of the plurality of tasks in response to events, the Cannon reference fails to disclose each and every element of Claims 1 and 20, as arranged in the claims, and as such, the rejection under 35 U.S.C. §102(e) is improper and should be reversed. Therefore Claims 1 and 20 are in a position for allowance.

Specifically, independent Claims 1 and 20 each disclose that a specified distribution of a plurality of tasks is determined. That is, for a plurality of tasks (e.g., L, M, N, and O), a distribution of the plurality of tasks is determined. For example, if the plurality of tasks is advertisements, the specified distribution describes the overall presentation of the advertisements to a specific group of customers.

On the other hand, the Cannon reference does not disclose a specified distribution of a plurality of tasks. Instead, the Cannon reference teaches a method for selecting an additional spot for inclusion within an advertising schedule. Specifically, the Cannon reference teaches the selection of one of a plurality of possible advertising time spot. In the example provided in the

Cannon reference, a current advertising plan includes three time spots for presenting a single advertisement: spot A, spot B, and spot C. The Cannon reference selects from spots D, E, F, and G for inclusion within the advertising plan. (See col. 39, lines 2-8 and col. 41, lines 54-58 of the Cannon reference).

Further, independent Claims 1 and 20 each disclose that an event in a sequence of events is assumed to occur in order to determine which of the tasks is selected. Each event triggers execution of one of the plurality of tasks. The events as disclosed in the present embodiments describe single actions that trigger execution of one of the plurality of tasks (e.g., L, M, N, or O). For example, when a customer visits a web site as an event, the present embodiments of independent Claims 1 and 20 are able to determine which task (e.g., L, M, N, or O), or advertisement, is selected to present to the customer.

On the other hand, the Cannon reference does not disclose the assumption of a single event in a sequence of events, wherein each event in the sequence triggers execution of one of the plurality of tasks, as in the present invention. Instead, the Cannon reference utilizes a history of viewing data for a sample group to determine selection of one of the possible plurality of time spots (e.g., spots D, E, F, or G) for inclusion within the advertising schedule. Once one of the time spots (e.g., spots D, E, F, or G) is selected, the remaining possible time spots are never selected. That is, the Cannon reference teaches the selection of one spot in a plurality of possible time spots. As such, the Cannon reference teaches a history of viewing events that is used to select from one of a plurality of possible time spots (e.g., spots D, E, F, and G), but does not teach

the assumption of an event in a sequence of events that triggers execution of one of a plurality of tasks, as is disclosed in independent Claims 1 and 20.

Moreover, independent Claims 1 and 20 each disclose that a plurality of hypothetical distributions of the plurality of tasks is determined for each task that is hypothetically selected. That is, for each task L, M, N, or O that is selected in response to an event, a new and hypothetical distribution of the singular and unvarying plurality of tasks (L, M, N, or O) is determined.

On the other hand, the Cannon reference does not calculate a hypothetical distribution of the execution of the plurality of tasks. The Cannon reference teaches a scoring for each alternative spot (spots D, E, F, or G) using five indices that are considered in the advertising optimization process. However, embodiments of the present invention are distinguishable from the Cannon reference in that the scoring is determined from a singular plurality of tasks, and not from a multiple plurality of possible tasks. Specifically, embodiments of the present invention determine a hypothetical distribution from an unvarying, singular plurality of tasks (e.g., L, M, N, and O), whereas, the Cannon reference determines scores for multiple plurality of possible tasks. That is, the Cannon reference provides a score for the following four advertising schedules: spots A, B, C, and D; spots A, B, C, and E; spots A, B, C, and F; and spots A, B, C, and G. As such, the Cannon reference does not teach the determination of a plurality of hypothetical distributions of the singular and unvarying plurality of tasks, as is recited in independent Claims 1 and 20 of the present invention.

In addition, independent Claims 1 and 20 each disclose that a task from the plurality of tasks (e.g., L, M, N, and O) is selected for execution in response to an event. The task that is selected provides a corresponding hypothetical distribution of the singular and unvarying plurality of tasks that is closest to the previously determined specified distribution of the plurality of tasks. That is, a task is selected that would provide the closest distribution of the plurality of tasks, should that task be selected, to the specified distribution.

On the other hand, the Cannon reference does not disclose the selection of a task from a singular and unvarying plurality of tasks used to determine a specified distribution, as is recited in independent Claims 1 and 20. Instead, the Cannon reference selects a time spot from a plurality of possible time spots (e.g., spots D, E, F, and G). That is, the Cannon reference selects one combination of time spots from multiple combinations of time spots (e.g., combination of spots A, B, C, and D; combination of spots A, B, C, and E; combination of spots A, B, C, and F; and combination of spots A, B, C, and G). The selected combination provides the highest score that more efficiently matches the predetermined media objectives. (See col. 41, lines 54-63 of the Cannon reference).

As such, the Cannon reference selects a spot from possible time spots (e.g., spots D, E, F, or G) for inclusion into an existing advertising schedule (spots A, B, and C). Specifically, the Cannon reference selects one of a plurality of possible combinations of time spots. That is, the Cannon reference selects from one of the combination of spots A, B, C, and D; combination of spots A, B, C, and E; combination of spots A, B, C, and F; and combination of spots A, B, C, and G.

In summary, the Cannon reference cannot possibly teach the embodiments of the present invention since the Cannon reference selects a task from one of a plurality of possible spots (e.g., spots (D, E, F, and G) for inclusion within an existing advertising schedule (spots A, B, and C). Upon selection of one of the plurality of possible spots (e.g., spots D, E, F, and G), the non-selected spots are no longer considered for execution. That is, the Cannon reference selects one of a possible combination of spots (e.g., combination of spots A, B, C, and D; combination of spots A, B, C, and E; combination of spots A, B, C, and F; and combination of spots A, B, C, and G).

Embodiments of the present invention, on the other hand, provide for the selection of a task from a singular and unvarying plurality of tasks (e.g., L, M, N, and O). That is, embodiments of the present invention are used to select a task for execution from a plurality of specified tasks in response to an event. Once selection of one of the plurality of tasks is made, the non-selected spots can again be considered for execution upon the execution of a later event. The task selection provides a corresponding hypothetical distribution of the singular and unvarying plurality of tasks that is closest to a specified distribution.

For these reasons, Appellants respectfully state that the Cannon reference does not anticipate the features as claimed in independent Claims 1 and 20 and as such the rejection under 35 U.S.C. §102 (e) is improper and should be reversed. In addition, Appellants respectfully submit that the Cannon reference does not anticipate or render obvious the embodiments of the present invention as are recited in Claims 2-10 which depend from independent Claim 1,

and Claims 21-30 which depend from independent Claim 20, and that these claims are in condition for allowance as being dependent on an allowable base claim.

Appellants respectfully submit that the Examiner's rejections of the Claims are improper as key limitations needed for proper prima facie rejections of Appellants' Claims are not met by the cited reference as outlined above.

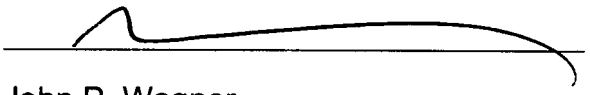
In summary, the Appellants respectfully request that the Board reverse the Examiner's rejections of Claims 1-10 and 20-30.

The Appellants wish to encourage the Examiner or a member of the Board of Patent Appeals to telephone the Appellants' undersigned representative if it is felt that a telephone conference could expedite prosecution.

Respectfully submitted,

WAGNER BLECHER LLP

Date: 6/4/07



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Claims Appendix

1. (Previously Presented) A method of task selection comprising the steps of:

determining a specified distribution of a plurality of tasks;

assuming a first event in a sequence of events occurs, each event in said sequence of events triggering execution of one of said plurality of tasks;

determining a plurality of hypothetical distributions of said plurality of tasks for each task hypothetically selected for execution from said plurality of tasks; and

selecting a first task for execution from said plurality of tasks, which when selected provides a corresponding hypothetical distribution of said plurality of tasks that is closest to said specified distribution of said plurality of tasks for implementation of said specified distribution.

2. (Original) The method as described in Claim 1, wherein said method comprises the further step of performing said first task when said first event in said sequence of events actually occurs.

3. (Previously Presented) The method as described in Claim 1, wherein said first event is a customer visiting a web site over a communication network, and said sequence of events is a sequence of customers visiting said web site.

4. (Original) The method as described in Claim 3, wherein said plurality of tasks is a plurality of advertising promotions that individually, when selected by said method, is offered to each customer in said sequence of customers.

5. (Previously Presented) The method as described in Claim 1, wherein said plurality of hypothetical distributions is accessed as a plurality of vectors, each of which comprises a plurality of components, said plurality of components associated with said plurality of tasks where each of said plurality of components is associated with a corresponding task in said plurality of tasks, said plurality of components defining the number of times each of said plurality of tasks has been selected within said sequence of events in relation to the sum of all tasks selected within said sequence of events prior to said first event.

6. (Previously Presented) The method as described in Claim 1, comprising further steps as follows to determine said second distribution:

calculating a mathematical distance between each of said plurality of hypothetical distributions and said specified distribution, creating a plurality of mathematical distances; and

selecting a first mathematical distance from said plurality of mathematical distances that has the least value, said first mathematical distance associated with the selection of said first task in association with said first event.

7. (Original) The method as described in Claim 6, wherein said plurality of hypothetical distributions is pre-calculated before said first event occurs.

8. (Previously Presented) The method as described in Claim 6, wherein each of said plurality of hypothetical distributions is expressed in vector form, said specified distribution is expressed in vector form, and of each said plurality of mathematical distances is a vector norm calculated from the vector difference

between each of said plurality of hypothetical distributions and said specified distribution.

9. (Original) The method as described in Claim 3, wherein each of said events in said sequence of events is classified within a segment, said segment defining an independent set of characteristics, said segment associated with said plurality of tasks.

10. (Previously Presented) The method as described in Claim 1, wherein if said first event is the first in said sequence of events, then said first task has the highest proportionate value in said specified distribution of said plurality of tasks.

20. (Previously Presented) A computer system comprising:

a bus;

a memory unit coupled to said bus; and

a processor coupled to said bus, said processor for executing a method of selection comprising the steps of:

determining a specified distribution of a plurality of tasks;

assuming a first event in a sequence of events occurs, each event in said sequence of events triggering execution of one of said plurality of tasks;

determining a plurality of hypothetical distributions of said plurality of tasks for each task hypothetically selected for execution from said plurality of tasks;

selecting a first task for execution from said plurality of tasks, which when selected provides a corresponding hypothetical distribution of said plurality of

tasks that is closest to said specified distribution of said plurality of tasks for implementation of said specified distribution.

21. (Original) The computer system as described in Claim 20, wherein said method comprises the further step of performing said first task when said first event in said sequence of events actually occurs.

22. (Previously Presented) The computer system as described in Claim 20, wherein in said method said first event is a customer visiting a web site over a communication network, and said sequence of events is a sequence of customers visiting said web site.

23. (Original) The computer system as described in Claim 22, wherein in said method said plurality of tasks is a plurality of advertising promotions that individually, when selected by said method, is offered to each customer in said sequence of customers.

24. (Previously Presented) The computer system as described in Claim 20, wherein in said method said plurality of hypothetical distributions is accessed as a plurality of vectors, each of which comprises a plurality of components, said plurality of components associated with said plurality of tasks where each of said plurality of components is associated with a corresponding task in said plurality of tasks, said plurality of components defining the amount of times each of said plurality of tasks has been selected within said sequence of events in relation to the sum of all tasks selected within said sequence of events prior to said first event.

25. (Previously Presented) The computer system as described in Claim 20, wherein said method comprises further steps as follows to determine said second distribution:

calculating a mathematical distance between each of said plurality of hypothetical distributions and said specified distribution, creating a plurality of mathematical distances; and

selecting a first mathematical distance from said plurality of mathematical distances that has the least value, said first mathematical distance associated with the selection of said first task in association with said first event and said second distribution.

26. (Original) The computer system as described in Claim 25, wherein in said method said plurality of hypothetical distributions is pre-calculated before said first event occurs.

27. (Previously Presented) The computer system as described in Claim 25, wherein in said method each of said plurality of hypothetical distributions is expressed in vector form, said specified distribution is expressed in vector form, and of each said plurality of mathematical distances is a vector norm calculated from the vector difference between each of said plurality of hypothetical distributions and said specified distribution.

28. (Original) The computer system as described in Claim 20, wherein in said method said objective is to enhance profitability.

29. (Previously Presented) The computer system as described in Claim 20, wherein in said method if said first event is the first in said sequence of events, then said first task has the highest proportionate value in said specified distribution of said plurality of tasks.

30. (Original) The computer system as described in Claim 20, wherein in said method each of said events in said sequence of events is classified within a segment, said segment defining an independent set of characteristics, said segment associated with said plurality of tasks.

Evidence Appendix

None

Related Proceedings Appendix

None